IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for detecting at least one parameter representative of molecular probes fixed to active zones of a sensor, ~~characterized in that~~ wherein said sensor ~~consists of~~ includes a network of field-effect transistors ~~(T_1, T_2 etc.)~~, each of which has a source region [[(S)]], a drain region [[(D)]], and a gate region which forms [[a]] one of said active ~~zone (3)~~ zones on which said representative parameter ~~should be~~ is detected, ~~and in that it comprises~~ the method comprising the following steps:

a) bringing some of said active zones [[(3)]] into contact with molecular probes in order to fix said probes[[,]];

b) bathing at least ~~these~~ said some of active zones which have been brought into contact with said molecular probes, in [[an]] said electrolyte solution [[(6),]]; and

c) measuring at least one point of ~~the drain current/source-gate voltage/source-drain voltage~~ at least one of a drain current, source-gate voltage, and source-drain voltage characteristic of at least two of the field-effect transistors of a first group corresponding to ~~zones (3)~~ at least an active zone brought into contact with said molecular probes, so as to deduce therefrom at least one said representative parameter by comparison between at least two measurements obtained for two different active zones immerged in said electrolyte solution.

Claim 2 (Currently Amended): The method as claimed in claim 1, ~~characterized in that~~ wherein said ~~measurement~~ measuring of said at least one point ~~of the characteristic uses the application of~~ comprises:

applying a given voltage ~~(U_{DS})~~ between the drain region and the source region of at least said transistors of the first group and also the application, in a first case, of a given

voltage ~~(U_{GS})~~ between the gate region and the source region of these transistors of the first group or, in a second case, of a given drain current ~~(I_D)~~ to ~~these~~ the transistors of the first group.

Claim 3 (Currently Amended): The method as claimed in either of the preceding claims, ~~characterized in that it has~~ further comprising: a rinsing step between a) and b).

Claim 4 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that it comprises~~ claim 1, further comprising, after a) and before b), the following steps:

a1) rinsing,

a2) adding a solution containing target molecules capable of interacting specifically with the molecular probes.

Claim 5 (Currently Amended): The method as claimed in ~~one of claims 1 to 6, characterized in that it comprises~~ claim 1, further comprising, after step c), the following steps:

d) adding an electrolyte solution [[(6)]] containing target molecules capable of interacting specifically with the molecular probes[[,]];

e) measuring at least one point of ~~the drain current/source-gate voltage/source-drain voltage~~ a drain current, source-gate voltage, and source-drain voltage characteristic of at least two ~~of the~~ transistors of a second group corresponding to said active zones [[(3)]] brought into contact with said molecular probes and with said target molecules, so as to obtain by comparison at least one said representative parameter.

Claim 6 (Currently Amended): The method as claimed in claim 5, ~~characterized in that~~ wherein, in ~~point~~ step e), the measurement of at least one point of the characteristic ~~uses the application of~~ comprises:

applying a given voltage ~~(U_{DS})~~ between the drain region and the source region of ~~the transistors of at least~~ said two transistors of the second group, and ~~the application~~applying, in a first case, [[of]] a given voltage ~~(U_{GS})~~ between the gate region and the source region of ~~these~~ the transistors of the second group or, in a second case, of a given drain current ~~(I_D)~~ to ~~these~~ the transistors of the second group.

Claim 7 (Currently Amended): The method as claimed in ~~either of claims 5 and 6, characterized in that it uses~~ claim 5, comprising: using a plurality of said measurements of at least one point of the characteristic, which are spaced out over time.

Claim 8 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein said comparison is carried out by differential measurement.

Claim 9 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the comparison is carried out between measurements carried out on at least two transistors corresponding to said active zones [[(3)]] which are bathed in [[an]] said electrolyte solution [[(6)]] after having been brought into contact with said molecular probes.

Claim 10 (Currently Amended): The method as claimed in ~~one of claims 1 to 8, characterized in that~~ claim 1, wherein the comparison is carried out between measurements

carried out on at least one transistor corresponding to a first active zone [[(3)]] which is bathed in [[an]] said electrolyte solution [[(6)]] after having been brought into contact with said molecular probes for the purpose of fixing ~~them~~the molecular probes, and on at least one transistor corresponding to a second active zone which is bathed in said electrolyte solution [[(6)]] without having been brought into contact with said molecular probes.

Claim 11 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein said representative parameter is a detection of the fixing of the molecular probes to ~~a said zone (3)~~ said one of said active zones.

Claim 12 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the molecular probes are DNA, RNA or protein molecules.

Claim 13 (Currently Amended): The method as claimed in claim 12, ~~characterized in that~~ wherein the molecular probes are DNA molecules and ~~in that~~ the field-effect transistors are of depleted n-channel type, with a negative gate bias.

Claim 14 (Currently Amended): The method as claimed in ~~either of claims 12 and 13, characterized in that it uses~~ claim 12, comprising: using detection by comparison between two zones, each zone comprising at least one ~~said~~ field-effect transistor, the first zone being bathed in a solution obtained from [[an]] a first enzymological reaction ~~(for example, PCR amplification)~~ giving a detectable product specific for the presence or the absence of a mutation in a first DNA sample, and the second zone being bathed in a solution obtained from [[an]] a second enzymological reaction ~~(for example, PCR amplification)~~ giving a DNA

product specific for the presence or for the absence of a mutation in a second DNA sample.

Claim 15 (Currently Amended): The method as claimed in claim 14, ~~characterized in that~~ wherein the first and the second DNA samples originate from two patients and ~~in that~~ the first and second enzymological ~~reaction is~~ reactions are the same for the two samples.

Claim 16 (Currently Amended): The method as claimed in claim 14, ~~characterized in that~~ wherein the first and the second DNA samples are identical and originate from the same patient, and ~~in that~~ the first enzymological reaction in the first zone is carried out under experimental conditions producing a DNA product in the absence of mutation in the first sample, and ~~in that~~ the second enzymological reaction in the second zone is carried out under experimental conditions producing a DNA product in the presence of a mutation in the second sample.

Claim 17 (Currently Amended): The method as claimed in ~~one of the preceding claims, characterized in that it comprises the circulation of~~ claim 1, comprising: circulating a solution through at least one microfluid channel, so as to bring [[it]] said solution into contact with at least one ~~said~~ field-effect ~~transistor~~ transistors ~~(T_1 . . . T_2 etc.)~~.

Claim 18 (New): The method of claim 1, further comprising:

fixing a potential of the electrolyte solution which covers said active zones with a gate electrode immerged in said electrolyte solution.